

CLAIMS

1. A paper feed apparatus includes a pick mechanism for successively taking out, by use of a pick roller, a plurality of sheets of paper stacked on a chute from the bottom side thereof, leading ends of the sheets being aligned by means of a stopper block in a state in which the sheets are stacked on the chute, characterized by comprising:

a roller guide for raising the leading ends of the sheets stacked on the chute to thereby prevent contact between the sheets and the pick roller, when the roller guide is raised to a paper setting position in a direction away from the pick roller; and

an abutment guide for aligning the leading ends of the sheets, which ends have been raised by means of the raised roller guide, wherein

when a pick operation is started, prior to retraction of the roller guide, sheet pressing operation of a pick arm and retraction of the abutment guide are performed, and then the sheets are taken out through a clearance formed between the distal end of the stopper block and the pick roller.

2. A paper feed apparatus according to claim 1, wherein the paper feed apparatus is disposed in an original-conveyance-type image reader apparatus having a housing structure that can be divided into an upper housing and a lower housing; the roller guide is attached to the lower housing; and the abutment guide is attached to the upper housing.

3. A paper feed apparatus according to claim 1, wherein the roller guide is mechanically linked with the pick roller so that the roller guide is moved to the paper setting position through drive of the pick roller in a reverse direction, and is moved to a retreat position through drive of the pick roller in a regular direction.

4. A paper feed apparatus according to claim 1, wherein the roller guide is moved upward and downward before start of paper feed operation so as to impart vertical vibration to the sheets to be fed, to thereby align the leading end of the sheets.

5. A paper feed apparatus according to claim 1, wherein a common drive source is used for a feed roller and the abutment guide so as to move the abutment guide to a paper setting position through drive of the feed roller in a reverse direction, and move the abutment guide to a retreat position through drive of the feed roller in a regular direction.

6. A paper feed apparatus according to claim 1, wherein a portion of the abutment guide which comes into contact with the leading ends of the sheets of paper has a roughened surface.

7. A paper feed method for successively taking out, by use of a pick roller, a plurality of sheets of paper stacked on a chute from the bottom side thereof, leading ends of the sheets being aligned by means of a stopper block in a state in which the sheets are stacked on the chute, the method

comprising the steps of:

preventing contact between the sheets and the pick roller by means of a roller guide which raises the leading ends of the sheets stacked on the chute when the roller guide is raised to a paper setting position in a direction away from the pick roller;

aligning, by use of an abutment guide, the leading ends of the sheets, which ends have been raised by means of the raised roller guide; and

performing, when a pick operation is started, sheet pressing operation of a pick arm and retraction of the abutment guide prior to retraction of the roller guide, and then taking out the sheets through a clearance formed between the distal end of the stopper block and the pick roller.